ABSTRACT

Mechanism for OFDM Equalizer Tap Initialization
Using an Adaptive Algorithm

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A method for initializing an equalizer in an Orthogonal Frequency Division Multiplexing ("OFDM") receiver includes generating a desired equalizer tap setting based on an adaptive algorithm. An initial setting for the adaptive algorithm corresponds to an approximate inverse of a channel estimate, and the desired tap setting corresponds to an ideal inverse of the channel estimate. In an alternative embodiment, a method includes generating a channel estimate, generating an equalizer tap setting based on a complex conjugate of the estimate and a quantized magnitude squared of the estimate, and repeatedly generating subsequent tap settings until an error falls within limits. In another alternative embodiment, an apparatus includes a tap initialization controller configured to: generate a channel estimate, generate an equalizer tap setting based on a complex conjugate of the estimate and a quantized magnitude squared of the estimate, and repeatedly generate subsequent tap settings until an error falls within limits.

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